

REMARKS/ARGUMENTS

Claims 1 and 14 - 19 are pending.

Claims 1 and 14-18 were rejected under 35 U.S.C. § 103(a) for allegedly being unpatentable over Stallmo et al., U.S. Patent No. 5,875,456.

The present invention is directed to computer storage with reconfigurable logical volumes. An aspect of the invention as recited in claim 1 is an “LU controller comprising an LUN map designating a correlation among an outer LUN, one or more inner LUNs, and a computer ID, said outer LUN designating an outer logical volume that can be accessed by one of said computers, each of said inner LUNs designating at least one of said inner logical volumes whereby said outer logical volume can be associated with one or more of said inner logical volumes.” See also claims 17 and 18.

The Examiner relied largely on Fig. 19 in support of the rejection of the claims. The Examiner interpreted “[e]ach block group is an instance of Stallmo’s outer LUN and the blocks contained within the block group are the inner LUNs.” O.A. page 5, section titled “Response to Arguments”. It is submitted in earnest and with respect that the Examiner has erred in his interpretation of the Stallmo et al. blocks (e.g., 1902, Fig. 19). While one of ordinary skill might regard the Stallmo et al. block group (e.g., “block group 0”) to be a logical volume, it is earnestly submitted that the person of ordinary skill would not interpret the constituent blocks within the block group to be logical volumes. Thus, the “blocks 0 - 1000” (1902, Fig. 19) would not be interpreted by a person of ordinary skill to be a logical volume this identified by an inner LUN. At best, the “blocks 0 - 1000” constitute a portion of a logical volume that is identified by “block group 0”. Stallmo et al., therefore, do not show an inner LUN that designates an inner logical volume. The constituent blocks of a logical volume do not themselves constitute a logical volume. For this reason, the Section 102 rejection of the claims is believed to be overcome.

A further aspect of the present invention as recited in claim 1 is that in response to receiving an instruction to change the logical volume configuration, the LUN map can be modified such that prior to receiving the instruction “a first outer LUN and a first computer ID

are associated with a first inner LUN” and subsequent to receiving the instruction “aid first outer LUN and said first computer ID are associated with a second inner LUN different from said first inner LUN”. Stallmo et al. show in Fig. 19, the addition of blocks to a block group (e.g., “block group 0”). The blocks are allocated from a block pool (1908). These blocks do not constitute logical volumes. Stallmo et al. therefore do not show receiving an instruction to modify a LUN map such that prior to receiving the instruction “a first outer LUN and a first computer ID are associated with a first inner LUN” and subsequent to receiving the instruction “aid first outer LUN and said first computer ID are associated with a second inner LUN different from said first inner LUN”. The Section 102 rejection of claim 1 is therefore believed to be overcome.

Another aspect of the present invention as recited in claim 15 is that an outer LUN can be identified with a first inner logical volume and a second inner logical volume. Stallmo et al. in Fig. 19 show that a block group (e.g., “block group 0”) comprises blocks allocated from three disks; i.e., blocks 0 - 1000 of “block group 0” are allocated from disk 1, blocks 1001 - 5000 are allocated from disk 2, and blocks 5001 - 7000 are allocated from disk 3. The allocation shown in Fig. 19 is a RAID-based allocation scheme. It is known to one of ordinary skill in the art that constituent blocks in a RAID-defined logical volume do not themselves constitute logical volumes. Thus, Stallmo et al. do not teach an outer LUN that is associated with a first inner LUN and a second inner LUN. The Section 102 rejection of claim 15 is believed to be overcome.

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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